



1925

**Economic Conditions
Governmental Finance
United States Securities**



New York, June, 1925

General Business Conditions

THERE has been little change in business conditions during the past month, but on the whole confidence is stronger. The depressing influence of declining prices in the grain and stock markets has passed off, these markets having made good recoveries. The opinion now prevails that the reaction in both markets was overdone. Wheat has recovered about one-half of its precipitate decline from the high point of the year, and the New York Times list of 50 standard stocks on May 22nd stood at an average of 112.91, the highest average on these stocks in the present year. The low average on these stocks was 101.16, touched on March 26. Undoubtedly sentiment upon the general situation was unduly disturbed by the March declines.

Complaints about the state of business, and particularly about the profits of business, are common, but evidently somebody is doing a large volume of business. From January 1 to May 16 this year 18,434,894 cars of revenue freight were loaded on the railroads, against 17,821,195 cars in the corresponding period of 1924, 18,009,683 in the corresponding period of 1923 and 15,059,900 cars in the corresponding period of 1922. The figures for this year are the largest on record for the corresponding period of the year. Moreover, the excess of loadings this year over those of 1923 has been despite the fact that coal, coke, ore, grain and livestock loadings have been in the aggregate less by 41,210 cars in 1925 than in 1923. The excess of merchandise and miscellaneous freight was enough larger to more than make good the loss in these classes, and merchandise and miscellaneous freight are most significant of general industrial activity. Last year's grain crops moved to market earlier than usual. In only three weeks thus far in 1925 have the loadings fallen below those of the corresponding weeks of 1924 and in only six weeks have they fallen below the corresponding weeks of 1923, the greatest previously known.

Moreover, car loadings do not furnish the only evidence that the volume of business is

larger than ever before. Payments through banks are as good an index of the volume of business as can be had. The reports of member banks to the Reserve banks of debits to individual accounts from January 1 to May 20, 1925, show the following aggregates, and percentages of increase over the reports of the same banks in the corresponding period of 1924:

	1925	1924	Percent Increase over 1924
Reserve District			
Boston	11,323	10,181	11.2
New York	123,343	103,343	19.4
Philadelphia	9,852	9,123	8.0
Cleveland	11,584	10,904	6.2
Richmond	4,312	4,065	6.1
Atlanta	5,197	4,698	10.6
Chicago	24,492	22,023	11.2
St. Louis	5,659	5,114	10.7
Minneapolis	3,423	2,754	24.3
Kansas City	5,447	4,842	12.5
Dallas	2,863	2,485	15.2
San Francisco....	12,508	12,049	3.8
	220,003	191,581	14.8

Omitting New York City and consolidating all districts, the aggregate debits for each month have been as follows:

	1925	1924	Percent Increase
January	22,277	19,394	14.9
February	18,671	17,512	6.0
March	21,219	19,187	10.6
April	20,592	18,865	9.2
May (Including the 20th)....	14,723	13,071	12.6

Although both shipments and payments seem to be well maintained, when account is taken of the seasonal variation, the Spring activity is not quite up to par, although the deficiency is slight. The price-declines and enormous volume of pessimistic talk afloat would naturally prompt a postponement of orders wherever possible, but the situation has held its strength much better than last year at this time.

In a degree the conditions are similar to what they were then. Consumption measured by past records is at a high rate, but not quite up to productive capacity, hence sharp competition and unsatisfactory net returns. We have frequently expressed the opinion that this is no more than should be expected in view of what we know of maladjustments existing in the trade situation.

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Orders in the iron and steel industry are reported to have been better in May than in April, but not equal to shipments. Operations are well sustained at western points and producers are confident of a better summer than they had last year.

Building operations are going forward upon a scale which indicates that this year's total will be little if any under last year's. Bradstreet's report of building permits issued in the four months to and including April shows a total supply 2.8 per cent larger than that of the corresponding months of last year.

The automobile industry, which started the year at a slow gait, turned out in April the largest number of cars and trucks of any month on record. The following are the figures for cars and trucks by months in the first four months of the last three years:

	1923	1924	1925
January	249,366	324,449	240,912
February	283,603	376,200	287,019
March	363,657	393,276	362,303
April	391,263	384,121	420,373*
Total	1,287,889	1,478,046	1,310,607*

*Does not include Canadian output for April.

The tire industry, which suffered severely in the deflation period and as the result of over-development, has made its readjustments, and is prospering with the automobile industry.

The bituminous coal industry is still in a bad way. The Geological Survey reports production this year to May 16 as 181,151,000 tons, against 185,421,000 in 1924, 210,436,000 in 1923 and 196,867,000 in 1920. In 1924 there was danger of a strike on March 1st which stimulated buying in the first three months and in 1923 consumers were still replenishing stocks after the big strike of 1922. The coal industry has had no normal years since before the war, and has been completely disorganized by the experiences through which it has passed. Expert calculations indicate that between the competition of fuel oil and hydro-electric power, and the economies which are being accomplished in the consumption of coal for the generation of steam, the country is actually using less coal than formerly. At any rate, it is using less in proportion to the coal-producing capacity.

In the textile industries silk maintains a strong state of activity, while cotton and woolen goods are still on an unsatisfactory basis. The promise of another large cotton crop and the downward tendency of prices makes buyers wary of taking more goods than they need for day to day trade, and manufacturers are equally indisposed to manufacture for stock.

Production is at a high rate, April consumption of cotton reaching 597,104 bales, which

compares with the record of 624,624 bales in March, 1923. In only 3 months, January, March and May, 1923, has the April consumption been exceeded. That it should be so high when so many mills are known to be running on part time, gives support to the view now commonly held that the cotton goods industry is over-developed, having too much capacity for the amount of cotton, and for the consumption demand at present prices.

There is agitation in the South for general short-time operations, but an agreement to accomplish it would be in violation of law, and voluntary restriction by individual producers has the effect of raising their costs above those of competitors who run full time.

The price of wool is firmer, and the feeling seems to be that the decline has gone as far as conditions justify. Sales have been postponed in London and Australia, and much depends upon the showing when they are resumed next month.

The farm implement industry in the first quarter was 25 per cent better than in the corresponding quarter of 1924, and the entire situation in the sections where agriculture is the chief interest is decidedly more hopeful than a year ago. There is some hesitation just now, waiting the outcome of the crops and assurance as to prices. Fundamental conditions are getting constantly better.

The Crops

The crops made a good start, but have been given a serious back-set by killing frosts. Fruit has been injured in many localities, and corn, where above the ground, has been damaged to an extent not yet fully determined. It is not too late to replant corn, but where this is necessary the crop will have lost the advantage of an early start.

The government's May report on winter wheat estimated the probable yield at 444,833,000 bushels, which compares with an actual yield last year of 590,037,000 bushels, and indicating a probable loss of about 145,000,000 bushels. The Spring wheat acreage is about 15 per cent larger than last year, but the yield last year was unusually large per acre, and an average yield on this acreage would give only 260,000,000 bushels, against 283,000,000 harvested last year. These figures for Winter and Spring wheat indicate a present outlook for about 168,000,000 bushels less wheat in the United States than last year. On the other hand the Canadian acreage is about 5 per cent larger than last year and is off with a good start. An average yield there would give about 95,000,000 bushels more than Canada raised last year. The carry-over here and in Canada will be less than last year by 50,000,000 to 60,000,000 bushels. Therefore, the out-

look at this time is for about 125,000,000 bushels less wheat in North America in the coming crop year than in 1924.

These calculations based upon average crops do not signify much as to probable results in a single year for the "average" crop is seldom produced, except by addition and division. The actual crop in any given year is likely to be either more or less than the "average" of five or ten years, and the reader may guess to suit himself.

The government has issued an estimate that the July 1 carry-over in the five exporting countries will be 150,000,000 bushels less than last year, and if we consider that the crop in North America will be 75,000,000 bushels short, the total will offset a gain of 225,000,000 in production elsewhere. European crop prospects are very good at this time. The rise of prices in the last month indicates a prevalent opinion in the grain trade that wheat will be in a stronger position than in any year between 1920 and 1924. December wheat closed in Chicago on May 28 at \$1.62¾.

The outlook for the cotton crop at this writing is uncommonly good. The acreage is larger than that of last year, which was the largest ever planted. Rains in Oklahoma have completely relieved the drought in that state, and to a great extent this is true in Texas, although there are some spots in the latter state which have missed the rains. Elsewhere the conditions are promising.

The abandonment of Winter wheat acreage of course involves loss, but the loss is reduced by the fact that the land is put into other crops. Fruit is grown in such variety that damage to one kind or in certain localities is made up elsewhere. On the whole the outlook for agriculture is much better than at the beginning of June, 1924.

Money and the Exchanges

Money conditions have undergone little change in the past month, and there is nothing in sight to indicate a change before the Fall expansion of business comes. The demand for money has been light. Bills discounted held by the Reserve banks aggregate about \$414,000,000, against about \$400,000,000 on April 29 and almost exactly the same amount on April 1. Total loans and discounts of all reporting member banks were \$13,097,108,000 on May 20, against \$13,205,147,000 on April 1. Investments in bonds, stocks and securities were \$5,486,111,000, against \$5,498,381,000.

Gold movements are light. Foreign trade in April gave a favorable balance of \$51,000,000, as compared with \$22,600,000 in April, 1924. In the 10 months of the fiscal year ended with April the favorable trade balance was \$997,331,760, against \$692,523,309 in the

corresponding months of the previous fiscal year. Last year we were importing gold on a large scale and would be doing so now but for the foreign loans that have been placed here. It is apparent that our heavy exports of products are being financed by means of these credits, a fact which some of the critics of this lending policy will do well to consider.

Great Britain has gone through the first month of free gold payments with a net balance of receipts over outgo at the Bank of England, and with dollar exchange now well above the point at which it is profitable to ship gold from London to New York. Exchange rates are so near parity that they do not favor gold shipments in either direction, if subject to ordinary costs, so that the inward shipments probably have been favored in some way. The fact is, however, that the experiment, if such it may be called, has made a good beginning. At present rates for money in London there is some inducement for American bankers to lend in that market, in view of the fact that they can count definitely upon the rate at which their capital may be brought home when wanted here. This situation probably has had something to do with the favorable movement of exchange in the past month.

The Bond Market

Economists who ventured the opinion early in the year that prices for high grade bonds had probably reached the apex, have seen constantly rising prices since and are now quite agreed that the high levels recurring almost daily will be maintained for some months to come. The bond market during May has maintained a firm tone in all departments with the supply of new capital seeking investment much in excess of the volume of new offerings. Continued easing of money, further declines in commodity prices—despite the sensational advance in rubber and the upward tendency in oils—explain the present market situation. Add to this the scarcity of new offerings, and the case for continuing firm bond prices is complete.

That broadly accepted yard-stick of the bond market, the Dow Jones figures for the combined average of 40 issues (10 high grade rails, 10 second grade rails, 10 industrials, and 10 public utilities) on May 25th was 93.11 as compared with 92.12 on April 25th of this year and 88.89 on May 24th a year ago.

The market for United States Treasury Certificates, which always acts in close harmony with money rates, has been on the up grade. United States Treasury Certificates 4s of 1944 to 1954 sold as high as 102 9-16ths, a record high for all time. Portions of this same issue were brought out by the Government earlier in the year at 100½.

Foreign issues, particularly Europeans, have been strong, due in part to the general market rise but more particularly to the progress of the new French administration towards improving its governmental financial structure. While foreign issues generally have shown a substantial market improvement, they have hardly kept pace with the improvement in bonds in the domestic field. As a result, the differential in favor of sound foreign securities has been appreciably widened. Foreign bonds as a group are selling out of line and keen investors who foresee a continual improvement in international affairs, look upon the present market as a real investment opportunity.

Without venturing any predictions as to the future trend of bond prices, it is quite safe to say that investors who are holding off now in the hope of buying at substantially lower prices within a reasonable time, are making a mistake. The man who invests for income purchases bonds when he has the money available, thus keeping all his funds constantly employed. He realizes that the speculative chances of improving his position by holding off are about equal to the chance for loss through the same process, and that averaged out over a long period he will be money ahead by disregarding minor fluctuations.

The volume of new issues is still comparatively light and there is little prospect of any new offerings in the near future of sufficient volume to disturb present market trends.

Price Regulation of Rubber and Coffee

The hand-to-mouth policy of purchasing supplies which has been in vogue in all lines of late has run into a situation in rubber which indicates that there is such a thing as carrying it too far. As a rule manufacturers are the complainants against the policy, arguing that dealers and consumers put undue burdens upon them, but in this case the manufacturers using crude rubber are caught with light supplies when stocks are low everywhere, with the result that they are facing the necessity of paying much higher prices than have ruled in the last five years. Within the last two or three months the price of crude rubber has risen from around 35 cents per pound to 70 cents for spot sales, and about 60 cents for Fall deliveries. The price was as low as 17 cents in 1924, and touched the lowest point, about 14 cents, in 1922, at which time what is known as the Stevenson plan for the restriction of exports from the British colonies in Asia was put into operation.

The recent rise has caused the publication of sensational statements to the effect that the increased cost of rubber to the United States would pay the entire British government debt to this country, based upon the fact that our rubber importations in 1924 cost about \$185,-

000,000, and an estimate that the 1925 importations would cost \$400,000,000. This calculation reads very much like calculations made in England a few months ago showing the extent to which that country was being mulcted by the manipulation of wheat prices in the United States. If wheat and cotton on one side and rubber on the other side would all stay up around the highest prices of the past year, the net result in the trade of the two nations would be about a standoff, but in fact such prices are not likely to rule very long.

Inasmuch as the Stevenson plan probably has been a factor in the rise of rubber since it touched 14 cents in 1922, it is interesting to know something of the plan, not only because we would like to understand why we pay more for rubber, but because in the opinion of some people we are very much in need of a good plan of price-fixing to regulate the prices of our own products.

Plantation Rubber

Before the development of plantation production in Asia, which did not reach a considerable scale until after 1900, the supply of crude rubber came from wild trees, and mainly from Brazil. The expansion of the automobile industry created a great new demand which at first raised the price and thereby stimulated the plantation development. The world rubber crop in 1905 was 61,000 tons, from which it advanced to 124,000 in 1914, 390,000 tons in 1919 and about 420,000 tons in 1924. The increase is all plantation product. The approximate annual prices per pound of spot rubber at New York, from 1912 to 1924, according to "The Rubber Age," was as follows:

1912	.....	\$1.20	1919	.....	\$0.49
1913	.....	.84	1920	.....	.36
1914	.....	.74	1921	.....	.17
1915	.....	.66	1922	.....	.19
1916	.....	.80	1923	.....	.28
1917	.....	.74	1924	.....	.26½
1918	.....	.64			

The Stevenson plan was devised in London by a committee representing the British rubber producers, and approved by the Hon. Winston Churchill, now Chancellor of the Exchequer but then Secretary for the Colonies, and provided that the legislative bodies of Ceylon, the Malay States and the Straits Settlements should pass legislation providing for graduated tax levies upon exports of crude rubber, increasing as exports increased and prices declined and diminishing as prices rose.

The Stevenson Plan

The scheme fixed a certain "standard" production for each company, which was in fact the actual production of the year ended October 31, 1920, corrected to allow for

trees planted but not yet producing, as they come into production. Of this standard production, 60 per cent might be exported at what was called the minimum rate of duty, 1 pence, which was to be in lieu of all export duties then existing. Exports above 60 per cent of the standard, up to 65 per cent, were to bear a surtax of 4 pence per pound, those in excess of 65 per cent up to 70 per cent a tax of 5 pence a pound, and so each increase of 5 per cent in quantity caused an increase of 1 pence per pound in the tax, until an excess of 100 per cent in the standard rate of export would make the tax one shilling per pound on the entire amount exported. These taxes were intended to be prohibitive and to check production so long as prices were at unremunerative levels, and to yield some revenue as prices advanced.

This graduated scale, however, is not all there is of the plan. There is an ingenious modifying provision for raising or lowering the percentage of standard which may be exported under the minimum duty, as the price of rubber rises or falls, in London. When the average price of rubber in London had been maintained at not less than 1s. 3d. (30 cents) during three consecutive months the percentage would be raised automatically by 5 for the next ensuing quarter, and in the event of the average price being maintained, at an average not less than 1s. 6d. (36 cents) during three months the percentage would go up by 10, etc., an additional 5 per cent being released at the minimum rate for every increase of 3d. (6 cents) in the price.

Furthermore, the plan provides that, if during any period of three months the price should drop below 1 shilling (24 cents) the percentage of standard production which might be exported at the minimum duty would fall to 55, and if that reduction was not effective in raising the average price over the next three months to 1s. 3d. (30 cents) then the percentage subject to release at the minimum duty would drop to 50.

The defenders of the Stevenson plan say that the present jump of prices has resulted from the failure of manufacturers to make purchases last year in quantities which would have maintained prices. The average price in London in May, June, and July, 1924, being less than 1 shilling, the percentage which could be exported at the minimum rate dropped to 55, and when the price in August, September and October averaged below one shilling three pence (30 cents) the percentage which could be exported at the minimum rate dropped to 50, and exportations and production fell off. These reductions had the effect of materially reducing the available supply during the past year, but the rising prices are now causing the release of larger quantities. At this time 65 per cent is released at the minimum rate.

Consumption Overtakes Supply

At the time the plan went into effect accumulated stocks of rubber amounted to about 150,000 tons, and these have gradually diminished until a rapid increase of consumption in recent weeks, said to have been due in part to the popularity of balloon tires, has almost cleaned up the supply. Stocks in London January 1, 1924, were 60,000 tons, January 1, 1925, 29,000 tons, a week ago 6,600 tons. Stocks in this country at the end of last year were 50,000 tons and importations in the first quarter of 1925 were 114,561 tons, but apparently manufacturers have been alarmed by the rapid decline of London stocks and competition has developed for the supplies in sight.

The Rubber Age says that early estimates of consumption in the United States for 1925 were placed at 110 per cent of the 1924 consumption which amounted to about 370,000 tons. It is now generally believed that this figure will be exceeded. The consumption of the rest of the world for 1924 was about 140,000 tons and this year, with the renewed business activity on the Continent, it is expected that this figure will be exceeded by at least 20,000 tons, so that world demand for 1925 may approach 530,000 tons.

Opposition to Restriction

No little opposition to the Stevenson plan exists in Great Britain, and even among the British producers opinion does not support it unanimously. The Dutch producers were invited to take corresponding action and declined to do so, and production outside the British colonies has been steadily increased, causing some of the British producers to complain that they were holding an umbrella for everybody at their own expense. The London Times has steadily maintained that the plan is uneconomic and impolitic, pointing out that notwithstanding the curtailment of British production the aggregate production of rubber instead of diminishing has been increasing. The higher prices which have prevailed have been due to increasing consumption, and according to the Times the British producers by their self-denial have simply encouraged more production elsewhere.

The friends of the plan reply that but for its influence production by the British companies would have been at least 200,000 tons larger, and that this would have maintained the excessive stocks which were a load on the market, but this does not answer the argument that the plan has simply caused a shift of production from British territory elsewhere. The fact is that world production has not declined, and there is no way of proving either side of the contention as to what it would have been without the Stevenson plan.

Naturally the United States takes a lively interest in the workings of the plan, as this country consumes about 70 per cent of the rubber produced. It is safe to say that the large companies to whom rubber is a raw material would not long acquiesce in an arbitrary restriction which they thought was enhancing prices unduly. There are other countries in which rubber can be produced, notably Brazil, and high prices will supply the needed incentive.

British Comments

The view of most British companies is expressed in the following extract from the address of Mr. E. L. Hamilton, Chairman of the Straits Rubber Company, at the annual stockholders' meeting in London last month:

Just before restriction came into force the price of rubber was below the average cost of production. Today we can sell our exportable allowances for many months ahead at a price which permits of a reasonable profit on the capital sunk in our estates, and in my mind there is no doubt whatever that restriction has saved the industry, if not from absolute ruin, at least from a lengthy period of depression which would have exhausted our financial resources and made it impossible to have kept our properties in the high state of cultivation they are in to-day.

It can I think also be claimed that the scheme has been advantageous to the manufacturers. It is clearly understood by them, and through its automatic working they alone have it in their power to control the quantities of rubber released for shipment.

We shall welcome the day when restriction will no longer be necessary, but while it lasts it would in my opinion be fatal to tamper with the scheme under which it operates.

The prospects for the current year are quite encouraging. The surplus stocks which have been hanging over the market for the past three years have been worked off and there is no doubt the world is now consuming a good deal more rubber than is being produced. It is to be hoped therefore that at the end of each quarter of the current year we shall see further releases of the exportable quantity. At present the allowance is 55 per cent, and to-morrow it will, under the terms of the restriction scheme, be increased to 65 per cent. If an average price of 1s. 6d. per lb. for rubber is maintained throughout the current year the exportable allowance for the remaining two quarters will be increased by 10 per cent., which will give us by November 1 an allowance of 85 per cent., or an average of 67 per cent. over the whole year.

Another important man in the industry, Mr. Eric Miller, Chairman of the Rubber Growers' Association, is quoted as follows:

The problem of adjusting supply to demand so as to give the producer a reasonable return on the capital he adventures and in order to give the confidence necessary to provide for increased production in the future is not peculiar to the plantation rubber industry, but it is more difficult in the case of a perennial agricultural industry than in the case of crops which are the result of one season's planting and harvesting. The restriction scheme represents an honest attempt to grapple with the problem, and in my judgment no criticism of it carries the slightest weight unless the probable future is visualized as well as the past and the present.

I consider releases under the scheme should be forthcoming at the rate of 10 per cent. additional not only on May 1, but again on August 1 and November 1, which would bring us up to an 85 per cent. basis. That rate will provide sufficient rubber during 1926 to cover increased requirements, and allow a small

margin for replenishing stocks to some extent. People who agitate for greater releases immediately overlook the fact that the bulk of the tires to be sold this summer have already been manufactured and that there is generally an easing off in July, August, and September. When greater manufacturing activity is resumed towards the end of the year export releases will be on a substantially higher basis, and it is well known that most producers are carrying a certain amount of rubber in excess of the present low export figure, so that the increased releases can be shipped promptly.

Mr. Miller denies that the Stevenson plan is responsible for the check to tree-planting, which is said to threaten a more serious shortage of rubber in the course of the next five years. He holds that the real cause of less planting has been the low prices, and that so far as the Stevenson plan tends to assure remunerative prices its influence is for the maintenance of adequate supplies.

Considering the scheme as a price-fixing plan it should be noted that there is no purchase or guaranty by the government. Success depends upon control over exports by means of the export tax and upon control over world markets which certainly cannot be maintained permanently. The plan is not applicable to any of the crops of the United States, as an export tax in the United States upon any of our products is expressly forbidden by the Constitution.

Brazilian Coffee Restriction

The general policy of the Stevenson plan is much like that adopted by the government of Sao Paulo, the Brazilian State, for controlling the price of coffee. The State strictly limits the amount of coffee which may be brought to Santos, the export market, from time to time. The similarity between the two schemes was referred to by Mr. Edward Greene, managing director of the Brazilian Warrant Company, the British company which has supplied capital for the valorization enterprise and which is otherwise interested in the coffee situation. At the annual meeting of the stockholders of this Company, in London, a few weeks ago, Mr. Greene said, of the coffee situation:

Perhaps it would interest you to hear a few words about coffee and the position of the article. The year 1924 will remain memorable for two reasons—first, for the very serious drought in Sao Paulo, which occurred when the coffee trees should have been flowering, and, secondly, for the very great advance in price which took place as a consequence of reduced supplies and the fear that the drought would still further curtail them in the future. In September, October, and part of November last year all reports confirmed that the drought was prejudicing prospects for the new crop, and this possibility, in conjunction with the policy of the Sao Paulo Government in retaining surplus stocks in the interior of the country, created a very strong bull sentiment all along the line. Prices reached their highest point in November last, since when there has been a setback amounting to about 30s. per cwt., and the market continues heavy, owing to the accumulation of stocks in Brazil, due in part to the retention policy of the Sao Paulo Government.

This policy is somewhat analogous in its working to the Stevenson scheme for curtailing rubber production. It is not my business to talk to you about rubber, but I cannot help following with great interest the working of the Stevenson scheme, for there are some points of similarity between that scheme and the retention policy of the Sao Paulo Government for the "Defence of Coffee." The object of both schemes in their inception was to obtain a fair price for the producer, and it happens that America is the largest consumer of both commodities; and the American counter-move to both schemes has been the same—i. e., consumers have adopted a hand-to-mouth policy in buying. Under the shelter of the two schemes the price of coffee and rubber advanced; but behind these ingenious combinations to enhance values there stands the spectre of ever-increasing production from those countries where restrictive measures are not in operation and where the production is fomented by the remunerative prices artificially created. It is said that the Dutch production of rubber has increased under the Stevenson scheme, which is only operative in British territories, and certainly, in the case of coffee, production in Colombia and other countries, owing to the higher prices, has received an impulse that may become a menace to Sao Paulo.

During my visit to the United States I found that hostile propaganda had created a feeling of resentment against Brazil coffee in the minds of American consumers, who are Brazil's best customers, and who complained of the high prices to which coffee had been forced at the end of last year. It is not to the advantage of the article that this feeling should exist, and as prices have lately declined I hope that the Americans will soon get over their resentment, and consumers in the United States should make allowance for the enormously increased costs of production in Brazil. I have no fear that the consumption of coffee has been seriously damaged in the United States, for my experience in that country was that coffee is the only beverage left from which a little comfort may be obtained. Taking all things into consideration, it seems to me that the Sao Paulo Government are well advised in their present policy, which is, if I understand it aright, to try to stabilize prices at a level which is remunerative to growers.

The Sugar Situation

Rubber, oil, pork and sugar are commodities quite unrelated to each other and produced under widely different conditions, but each has undergone wide price fluctuations in the last three years. The story of rubber is told above; the price is booming because demand has overtaken supply. We have told at other times of the ups and downs of oil, wheat and hogs, which just now are enjoying prosperity.

Sugar has been performing in much the same manner, but moving in the opposite direction, in obedience to the same economic law. In 1923 the price fluctuations were relatively wide, ranging from 5.02 cents for Cuban raws, duty paid, in January, to 8.41 cents on April 25th. The advance was caused by a drought in Cuba, which reduced the cane yield from early estimates of 4,200,000 or 4,400,000 tons to an actual yield of 3,603,000 tons. As the effects of the drought developed, buyers bid up the price, as they are very apt to do with the price of anything the supply of which seems likely to be short. As prices rose, considerable excitement developed and government officials undertook to enjoin the sugar exchange and indict traders for conspiracy, but these proceedings ultimately came to nothing.

However, the high prices which ruled on that crop had economic results. They stimulated beet sugar producers to plant increased acreage in the Spring of 1924, so that the world's 1924-1925 beet crop has amounted to 8,185,385 long tons (according to Willett & Gray's figures), as compared with 5,861,478 long tons in the previous crop year, an increase of 2,323,907 long tons. Cane production does not in general respond as rapidly to the price stimulus as beet production, because of the necessity for planting so far ahead of time of harvest. Nevertheless the world's cane crop also shows an increase over last year of 817,000 tons. The latest estimates of the Cuban cane crop vary between 4,925,000 tons (Guma-Mejer) and 5,100,000 (Himely), as compared with a crop of 4,066,641 long tons last year.

In response to prospects in the latter part of 1924 for large production everywhere, the price of raw sugar fell from 6.15 cents duty paid at New York, on December 4th, 1924, to 4.59 cents on December 27th. The maximum fluctuations during the first five months of this year from this price have been about one-third of a cent above and one-fourth of a cent below. In this striking fashion have the high prices of 1923 "cured themselves."

Low Prices Stimulate Consumption

This, however, is not the only lesson in economics taught by the big sugar crop. Lower prices have increased consumption. Reliable information from Europe is to the effect that although production for the five principal exporting countries of Europe (Germany, Czecho-Slovakia, Belgium, Holland, Poland) increased 1,141,000 tons over last year, stocks in those countries on April first were only 178,000 tons in excess of last year at the corresponding date. In comparing the Cuban and European situation it must be borne in mind that the European beet crop was practically made by the end of January, and supplies have been disappearing since then, while the Cuban season is just now closing, and its production will be the main supply of this country to the end of this year. Nevertheless, with production to May 15 about 850,000 tons larger than to that date last year, stocks at ports and plantations were only 525,000 tons larger, indicating that the rapid movement of the European crop has not meant any curtailment of the demands on Cuba.

These figures shows that the disappearance of sugar to May 15 was even more than proportionate to the increased production. Disappearance, however, is not the same as consumption. The sugar has gone to the trade, but there remains the question whether stocks in the trade are greater than normal. It is known that the general trade policy in all lines of late has been to carry no larger stocks than

are necessary, and in view of the general tendency of sugar prices downward since last December it seems probable that this has been the policy of sugar dealers. So far as information is available it supports this view.

In this country, with the season of largest demand in immediate prospect, invisible stocks are reported as low, although the distribution from cane refineries and beet sugar mills for the first quarter of the year exceeded last year's distribution by 116,000 tons, an increase of 8.7 per cent.

U. S. Sugar Budget for 1925

Because of the present relatively low price of sugar and the relatively high tariff of 2.2 cents per pound on all foreign raw sugars except Cuban raws, it is clear that receipts of full duty sugars will be as small this year as in other years of low prices. In analyzing the sugar position of the United States for 1925, it is therefore only necessary to consider our usual sources of supply. The following table shows the domestic cane production (figures from "Facts About Sugar" and Willett & Gray):

	Long Tons
Hawaiian crop, less local consumption.....	620,000
Virgin Islands, less local consumption.....	7,000
Philippine Isl., available for export to U. S.	431,000
Porto Rico, less local consumption.....	508,000
Louisiana, less local consumption.....	120,000
Total raw cane supplies.....	1,686,000

The carry over of United States beet sugar at the beginning of the year is estimated at 725,000 tons (raw basis) and 20,000 tons for Louisiana, making a total of 2,431,000 tons raw basis. The Cuban crop may be set at 5,000,000 tons, of which approximately 1,250,000 tons will be sold to Canada, the United Kingdom, other European countries and the Far East, and about 175,000 tons will be consumed locally, leaving 3,575,000 for the United States. There must be added about 250,000 tons of 1925 beet sugar which will be distributed before the end of the year.

The total available supply in terms of refined sugar for this year for the United States, for consumption and export, will thus be about 5,800,000 long tons. Exports of refined sugar may be estimated at about 300,000 tons, which would leave available for domestic consumption for the calendar year 1925 about 5,500,000 tons. Trade figures of consumption for the first quarter of the year show an increase over last year of 8.7 per cent, which applied to last year's consumption of 4,854,000 long tons (Willett & Gray) would mean a consumption for the year of about 5,300,000 tons, leaving an apparent surplus of about 200,000 tons.

This is a close margin on the estimated consumption, and might be wiped out by summer demands somewhat greater than ordinary. In the last year of low prices, 1922, the per

capita consumption, according to the government estimate was 103.18 pounds while in 1924 it was 95.90 pounds. A rise to the 1922 rate would wipe out the indicated surplus several times over. There is to be considered not only the normal increase of demand, and the increase naturally resulting from the low price, but that European beet production is now back on practically the pre-war basis, and the price is so low as to be unremunerative on the bulk of production in all countries. These facts afford reason for belief that plantings at least will not increase, and as the yield on the present crop has been generally good, it would seem probable that the sugar-producers are in line for some such change as has come to the hog-raisers, rubber-producers and wheat-growers.

Our Relations With Canada

The people of the United States and Canada who believe that the prosperity of these two countries will be best promoted by allowing the individual citizens of both to bargain and trade together as they find it mutually advantageous, about as they do within each country, have numerous occasions to protest against proposals to have one government or the other interfere with such normal relations. The Fordney act struck Canada several hard blows and naturally provoked retaliation. Two proposals are now pending on the other side of the line which if carried through will seriously affect interests in the United States.

One of these is the proposal to place an embargo on the export of pulp wood. As the forests of the United States have been cut away the pulp mills of this country have drawn at an increasing rate upon the forests of Canada, until a large part of their production is from wood of that source.

An interruption of that supply would not only seriously affect their business and their investments but seriously affect the paper consumers of this country, and also the interests of the Canadian owners of timber who desire the competition of American mills. The purpose is said to be to conserve the Canadian timber resources, which, however, like the timber resources of this country, have suffered more from fire than from the consumption of paper mills. A more practical purpose seems to be that of forcing the manufacture of pulp in Canada, and there are suggestions that when this has been accomplished the next move will be an embargo on pulp to compel its manufacture into paper before shipment from Canada.

Many of the pulp companies of this country have purchased standing timber in Canada to supply their mills in the United States. The growth of the industry, however, is practically

all in Canada, the increase in Canadian production from 1920 to 1924 having been 54.6 per cent, with 87 per cent of that production exported, and 98 per cent of the export to the United States.

Electric Current

A similar agitation exists in regard to the exportation of electric energy. Water power is one of the resources with which Canada is well supplied, and naturally the Canadians would rather have it used by industries within the country than exported. On the other hand, the development of hydro-electric power requires heavy capital investments and unless the power is promptly saleable, accumulating interest charges will soon load an enterprise down hopelessly. Export of surplus power to the United States may promote power development in Canada, by helping new enterprises to pay their way.

Heretofore no embargo or tax has been laid upon the export of power, but it could be exported only under licenses granted by the Dominion government, and it has been the policy to grant licenses only from year to year. This restriction has discouraged the building of costly transmission lines. Recently movements to secure licenses for considerable periods, with a view to supplying power to the industries in the United States on a much larger scale, have stimulated an animated discussion. Strong opposition has been manifested to licenses over extended periods, but less to licenses for short terms. The Finance Minister in presenting his budget for the fiscal year 1925-26 included a recommendation for a Federal export tax of \$1.95 per horse-power per year. The amount of electrical energy exported in 1924 was 1,396,521,740 kilowatt hours, having an estimated value of about \$14,000,000.

The Flour-Milling Industry

The official Canadian commission which has been making an inquiry into the grain trade has recommended the imposition of an export duty of 42 cents per bushel upon wheat entering the United States for milling purposes, the purpose as reported by the newspapers being to prevent the grinding of Canadian wheat in bond by American mills. The proposed duty is the same as the import duty now imposed by the United States government upon foreign wheat brought in for domestic consumption but waived in the case of wheat imported in bond for export as flour. It is possible that the purpose is to enlist the aid of United States milling companies in securing the removal of an import duty on wheat.

In recent years there has been a considerable development of the practice of importing Canadian wheat in bond. Several large

mills have been built at Buffalo, a convenient location for obtaining wheat from the primary markets of either country, and for selling either in the domestic market or abroad. The leading milling companies of this country have built up an important export business in the past, which they may not always be able to supply from home-grown wheat. Undoubtedly in the long run the surplus wheat supply of this continent will be in Canada, and our millers have been looking forward to this situation. On the other hand the Canadian millers would like to be rid of this competition and apparently their arguments have been successful with this commission. The Canadian farmers who have wheat for sale may have a different view. It cannot be supposed that the grinding of Canadian wheat will be confined to Canadian millers, and if the millers of Europe may have Canadian wheat for grinding, why not the millers of the United States?

Probably the principal reason for this agitation is to be found in our own legislation affecting Canadian interests. It might be hard to tell which country has been most disregardful of mutual interests, but if a careful inquiry was made to determine the net results of all efforts to benefit either at the expense of the other it would quite surely be found that both have been injured. If the legislators of both countries gave less attention to particular interests and were guided instead by the general principle of reciprocity and harmony of interests, the results would be better all around. Does anybody believe that the economic interests of either the western or eastern halves of this country would be on the whole promoted by establishing trade barriers between them along the Mississippi river?

Our Trade With Canada

According to United States Customs returns, the trade of this country with Canada in the ten years from 1915 to 1924 inclusive has been as follows:

Calendar Year	Imports from Canada	Exports to Canada	Balance Favor of U. S.
1915	\$177,594,210	\$345,045,836	\$167,451,626
1916	237,242,040	604,908,190	367,666,150
1917	413,674,848	828,919,971	415,245,125
1918	451,695,009	886,877,584	435,182,575
1919	469,696,548	734,244,319	264,547,771
1920	611,863,170	971,852,474	359,989,304
1921	335,441,004	593,676,507	258,235,503
1922	364,024,797	576,683,789	212,658,992
1923	416,004,758	651,820,741	235,815,983
1924	399,067,928	624,000,925	224,932,997
Total	\$3,876,311,310	\$6,818,130,336	\$2,941,819,026

In the Canadian fiscal year ended March 31, 1925, the trade of Canada with all countries as reported by the Minister of Finance, aggregated \$1,952,130,164 and its trade with the United States aggregated \$1,042,899,356, or more than 50 per cent of the total. Imports

from all countries aggregated \$893,366,867; from the United States, \$601,256,447; from the United Kingdom, \$153,586,690; all other countries, \$138,523,730. Exports to all countries aggregated \$1,058,763,297; to the United States, \$441,642,909; to the United Kingdom, \$361,160,802, to all others, \$255,960,486.

Besides the balances coming to the United States from Canada on merchandise account, there are constantly accruing balances on investment account, Canadian securities being highly thought of in this country. Outside of the United States, Canada's foreign trade last year yielded her a favorable balance of \$325,009,968. She has obligations in London for capital advanced, and after settlement there is able to draw on her foreign credits in the settlement of her account with this country. Evidently our relations with Canada are worthy of the friendliest consideration on our part.

Mr. Hughes on Foreign Relations

Mr. Charles E. Hughes, after resigning the post of Secretary of State and returning to New York to resume the practice of law, was elected an honorary member of the Chamber of Commerce of the State of New York, and upon accepting the same made a brief address in which he touched upon the policy of the United States Government in the matter of support for American business enterprise abroad. Although this view may not be satisfactory to all, we consider it to be eminently sound, and all that American business as a rule desires of its government. We have the same view of what Mr. Hughes says of the policy embodied in the recently executed treaty with Germany. Although the Senate amended this treaty to permit of an alteration of our general policy by the enactment of discriminating duties generally applied, we join the eminent ex-Secretary in the opinion that such a policy of discrimination never should be adopted. The merchant marine act passed some years ago provides for it, but no administration since in power has wanted to take the responsibility of putting it into effect, for the reasons set forth by Mr. Hughes. What he says about governmental supervision over foreign borrowing is of particular interest at this time. After first referring to the constitutional form of our government and the manner in which authority is divided between the legislative and executive authority, and to the always-present possibility that political changes may change our governmental policies, he said:

I know there are some who think that our Government does not espouse with sufficient ardor the cause of business expansion abroad, that it is a mistake to withhold desired assurances of support when American interests seek opportunities in other lands, and other Governments are held up to us as patterns

of the sort of governmental enterprise and backing which would assure success in a world competition. I think that this is a shortsighted view. It should be enough to point out that under our system it would be a mistake for the executive branch of the Government to offer assurances which it could not make good; to give to other countries an impression of interference, none the better because more pretended than real; to develop among other peoples the suspicion and lack of confidence which such a policy, as is quite evident to you who are well acquainted with international relations, inevitably produces.

Our Government in its foreign relations must act according to the genius of our institutions with its checks upon efforts to pledge the future. Our policy rests on the conviction that, given an equal opportunity abroad, fair and equal dealing, American business men can take care of themselves. It is because of this policy that American capital is welcomed in many countries needing development, because it is believed that business enterprises sponsored by our business men are not associated with governmental intrigue. Our Government does not play favorites among American business men, and it seeks for all, and I think I may say with increasing success, the open door of opportunity. I believe that the Government has, and should have, the strong support of business organizations in maintaining this intelligent restraint.

It is a restraint not as generally recognized as it should be. There are some who have an inveterate although mistaken notion that our Government cherishes an imperialistic policy. They get political headaches from eye strain caused by the effort to see what does not exist. They imagine, for example, that they discover a government controlled by bankers. To the bankers themselves, conscious of the extent and inevitable risks of their unaided efforts, such charges must seem to be the perfection of irony. The truth is that investment in foreign loans is, and must be, a private affair. The business men of America know that the Government is not going to involve itself or promise the aid of military forces to collect debts. Naturally, the Department of State has desired information as to transactions with foreign Governments. While the Government does not control private investments, it has wished in the interest of the general peace and sound conditions of commerce, to discourage loans for unproductive purposes and especially such as would be thought to strengthen military establishments in a world that needs more of reason and less of arms. It is idle, however, to talk of the desire for progress of civilization in other lands, especially in undeveloped countries, unless the economic basis for that progress is supplied.

It would not be sound policy for this Government to abandon its independent position and embroil itself in negotiations, much less to seek to control other peoples—we have troubles enough at home—but when this Government is besought by other governments as well as by American investors, not to give guarantees or the support of arms, but merely to facilitate arbitral arrangements for disposing of such disagreements as may arise or to aid in case of defaults to obtain impartial custodians of hypothecated funds, it is acting in responding to such requests simply as a friend in the interest of peace and order. This Government, as you well know, so far as its influence can properly go in such matters, sets itself against exploitation. It does not countenance it, much less encourage those who would practice it. Those who attempt to convey to other governments the impression that jug-handled proposals have some sort of favor at Washington are soon made aware of the displeasure that attends such misrepresentation and find themselves worse off than when they started. It is this sort of care not to inject the Government into private business affairs, but to endeavor to secure equality of opportunity and reasonable adjustments of difficulties, that leads to the enhancement of American prestige and really helps responsible and honorable enterprise.

It has been our desire to remove the hurdles in the way of success that are set up abroad by various discriminations. When the Department of State ne-

gotiated the recent commercial treaty with Germany there was inserted the most-favored-nation clause in the unconditional form, as our experience had showed that the conditional form gave rise to many barren disputes and yielded little or no advantage. The treaty also continued our long established policy by promising equal reciprocal national treatment of vessels in foreign trade, that is, aside from the coast-wise trade, which is by general consent deemed to be in a different category. We ask for our vessels in foreign ports the same treatment which the other country which is the party to our treaty gives to its own vessels with respect to tonnage dues, various port dues and cargo charges, and duties imposed in relation to the bottoms in which goods are carried in foreign trade; and, of course, we promise equal treatment of this sort in our own ports to the vessels of the other country. These clauses of the treaty encountered a sincere difference of opinion as to wisdom of this policy and the reservation with which the German treaty was approved by the Senate leaves the way open for the adoption of a different policy if the Congress shall so desire.

If I may express a personal opinion, I trust the time will not come when we shall change our policy. Such a change, I believe, instead of helping our commerce, would be a disaster. The question essentially is not one of meeting discrimination with discrimination, but of changing from our historic policy to a policy of discrimination for its own sake. It might be well enough to sharpen our knives against those who discriminate against our shipping, but this would be merely to force an agreement for equal treatment for our own ships. When another government is willing to agree with us to give reciprocally equal national treatment for vessels in foreign trade, we should be willing to make a like agreement. The policy of discrimination in such matters in order to force an agreement attains its end when agreement for equal treatment is reached. But a policy of discrimination for its own sake, with knives out all over the world, of unending strife to see who can make the most by discriminatory charges and retaliations would be, as it seems to me, a fatuous policy for us and destructive of the interests of American trade. I do not believe that we would win in the long run in such a rivalry of discriminations, as foreign nations have a greater area of governmental action according to their traditions and interests, and a wider field for possible political arrangements, than we have.

The Oil Industry

The recent increase in the production of crude petroleum and the rapid fluctuations in the prices of oil and gasoline have again called attention to the peculiar problems of this industry. For the current year production from January 1st to April 1st ran an even course of approximately 1,900,000 barrels daily, or practically the same as for the corresponding period last year. Since April 1st, however, the output has risen sharply to 2,150,000 at the end of April and 2,300,000 at the end of May, representing an advance of over 20 per cent in two months. The average of 2,314,750 for the week ended May 23d was the highest in history.

This increase has come mainly from the Smackover field in Arkansas. Although this territory has been producing oil for many years the "deep sand" reserves were discovered only last February, since which time production has increased to over 350,000 barrels daily. The Smackover oil is a heavy grade with asphaltum base and is used principally for fuel oil. It is

not so important a factor in the gasoline situation as are the paraffin-base and mixed-base crudes.

The following table shows the crude oil production in the United States by states for the last two years, according to the U. S. Geological Survey reports. The 1924 figures are preliminary, and final statistics will run about one per cent more, due to including petroleum consumed on the leases for fuel. Figures are given in barrels of 42 gallons with three ciphers omitted:

UNITED STATES PETROLEUM PRODUCTION

(Barrels of 42 gallons — 000 omitted)

	1923	%	1924	%
Arkansas	36,610	5.0	44,209	6.2
California	262,876	35.9	230,064	32.6
Colorado	86	—	404	0.1
Illinois	8,707	1.2	8,065	1.1
Indiana	1,043	0.1	985	0.1
Kansas	28,250	3.9	28,483	4.0
Kentucky	8,069	1.1	7,410	1.0
Louisiana	24,919	3.4	20,713	2.9
Montana	2,782	0.4	2,781	0.4
New York	1,250	0.2	1,366	0.2
Ohio	7,085	1.0	6,825	1.0
Oklahoma	160,929	21.9	170,895	24.2
Pennsylvania	7,609	1.0	7,535	1.1
Texas	131,023	17.9	132,071	18.7
West Virginia	6,358	0.9	5,927	0.8
Wyoming	44,785	6.1	39,488	5.6
All other	26	—	94	—
Total	732,407	100.0	707,265	100.0

World production for these two years is given in the following table, the 1923 figures being those of the U. S. Geological Survey and the 1924 estimate of the American Petroleum Institute. It is interesting to note that last year the United States produced 70.5 per cent of the world's total and Mexico 13.8, leaving only 15.7 per cent for all other countries. The three states of California, Oklahoma and Texas produced 22.7, 16.8 and 13.1 per cent respectively of the world's total, or 52.6 per cent together.

WORLD'S CRUDE OIL PRODUCTION

(Barrels of 42 gallons — 000 omitted)

	1923	%	1924	%
United States	732,407	71.9	714,000	70.5
Mexico	149,585	14.7	139,587	13.8
Russia	39,156	3.8	45,162	4.4
Persia	28,793	2.8	31,845	3.1
Dutch East Indies	19,868	1.9	21,000	2.1
Roumania	10,867	1.1	13,296	1.3
Venezuela	4,059	0.4	9,500	0.9
India	8,320	0.8	8,150	0.8
Peru	5,699	0.6	7,812	0.8
Poland (Galacia)	5,373	0.5	5,710	0.6
Sarawak (British Borneo)	3,940	0.4	4,500	0.4
Trinidad	3,051	0.3	4,284	0.4
Argentina	3,400	0.3	3,844	0.4
Japan and Formosa	1,789	0.2	1,600	0.2
Egypt	1,054	0.1	1,107	0.1
All Other	1,539	0.2	1,743	0.2
Total	1,018,900	100.0	1,013,139	100.0

The United States holds the position of world's oil refiner. Although our country produces approximately 70 per cent of the world's crude petroleum, last year there was imported

77,840,000 barrels, or another 10 per cent of the world output, chiefly from Mexico. We are large exporters, however, of refined products as will be seen from the following table covering last year's imports and exports, showing both quantity and dollar value. The gasoline exports represent 13.3 per cent of our domestic refinery output, kerosene 36.2, lubricating oils 32.9 and gas and fuel oils including bunker oil 24.2. So far during 1925 the export trade has been very satisfactory especially in gasoline, which is running about 20 per cent ahead of 1924:

PETROLEUM EXPORTS & IMPORTS

(Calendar Year 1924)

Imports:	Quantity	Value
Crude Petroleum, bbls.	77,775,000	\$ 78,842,000
Refined Petroleum Products, bbls.	16,759,000	26,870,000
Total Imports, bbls.	94,534,000	100,712,000
Exports:		
Crude Petroleum, bbls.	17,670,000	26,586,000
Gasoline, Naphtha, Etc., gals.	1,189,209,000	167,735,000
Kerosene, gals.	912,829,000	88,199,000
Gas & Fuel Oil, gals.	1,437,552,000	49,262,000
Lubricating Oils, gals.	379,948,000	86,701,000
Paraffin Wax, lbs.	382,820,000	18,526,000
Lubricating Greases, lbs.	96,150,000	4,981,000
Residuum, Etc., gals.	2,770,000	220,000
Asphalt & Bitumen, tons	83,231	2,460,000
Bunker Oil, bbls.	43,328,000	57,973,000
Total Exports		\$502,643,000

In the manufacture of the various petroleum products the first step is to separate the crude petroleum into its constituent parts by the process of distillation. The oil is run into huge stills and its temperature slowly raised, causing methane and ethane gases to escape. These are the lightest of the several hydrocarbon compounds making up crude petroleum, and as the temperature goes up the scale one after another of the heavier compounds reaches its boiling point and passes off as vapor, to be condensed, purified and packed into barrels, tins or tank cars for shipment. The second class to vaporize are penthane and hexane, light and volatile liquids used for solvents in the rubber and paint industries and usually called naphthas, after which come gasoline and kerosene. The remaining factors are light paraffin distillate and heavy paraffin distillate, used for lubricating oils and greases, a residue sold for fuel oil, and a black asphalt sold for paving.

If this asphalt be heated still further it decomposes into coke of a very pure grade and is employed for the manufacture of graphite electrodes for use in electric furnaces.

Midcontinent petroleum will furnish about 4 per cent of gas, 25 per cent of gasoline and naphthas, 15 per cent of kerosene, 40 per cent of gas oil, 12 per cent of paraffin and lubricating oils, and 4 per cent of coke. Gasoline is the product in chief demand and in 1912 chemists devised a process known as "cracking" to secure an additional yield of gasoline from the relatively low value fuel oil, by subjecting it to very high temperature and pressure, causing a breaking down of some of its elements into gasoline. There are now a number of different cracking processes in use, which have added a great deal to our gasoline supply.

There are some 300 active refineries in the United States whose output for the last two years was as follows, the figures being collected by the U. S. Bureau of Mines. Most of these are located either close to the producing fields, at tidewater where they can unload tank steamers and load refined oils for export, or in large cities where they are in close contact with their markets.

The Gasoline Situation

In the case of gasoline the growth of output during the last few years has been phenomenal and has paralleled the production of automobiles, which furnish its chief demand. In 1914, for example, total production was 1,500,000,000 gallons, which by 1919 had increased to 3,958,000,000 and in 1924 was 8,959,000,000. The production of passenger cars and trucks for these three years was 569,000, 1,974,000 and 3,561,000 respectively.

The consumption of gasoline is of a marked seasonal character, being at the low point each January and February, then rising each month to August, then declining to December, the maximum figure being twice the minimum. Production on the other hand runs more or less constant throughout the year, due to the desirability of keeping the "battery" of stills operating at 100 per cent capacity twenty-four hours a day throughout the year. This results in consumption and exports dropping below

U. S. REFINERY OPERATIONS

(Calendar Years)

	1923	% Yield	1924	% Yield
Refineries Reporting, average	301		265	
Crude Oil Run, bbls.	581,288,000	100.0	643,719,000	100.0
Gasoline, gals.	7,555,945,000	30.9	8,959,680,000	33.1
Kerosene, gals.	2,348,935,000	9.6	2,521,109,000	9.3
Gas & Fuel Oil, gals.	12,074,192,000	49.5	13,459,969,000	49.8
Lubricating Oils, gals.	1,097,368,000	4.5	1,154,927,000	4.3
Wax, lbs.	466,647,000		516,491,000	
Coke, tons	672,526		761,095	
Asphalt, tons	2,327,116		2,545,573	
Other finished products, gals.	213,626,000		346,579,000	
Losses, bbls.	18,921,000		19,590,000	

production during the Winter and the accumulation of stocks of gasoline in the hands of refiners and distributors, while during the Summer the consumption curve rises above production and stocks are drawn down.

Serious concern has been often expressed during the last two years over the fact that stocks of gasoline have accumulated to abnormally high levels, and prices have been depressed thereby. On January 1, 1924, this inventory was 1,074,900,000 gallons, from which it rose to a peak of 1,649,900 at the end of May, then declined to 1,180,000,000 by December 31st, representing a net gain during the year of 105,000,000 or 9.8 per cent. Domestic consumption last year, however, was 7,780,800,000 and exports 1,219,400,000, the total of 9,000,200,000 being an increase of 1,444,100,000 over the previous year, or 19.1 per cent. The figures for 1925 available at this writing include March and show for the first three months a production of 17.0 per cent ahead of last year, but against this domestic consumption has increased 27.6 and exports 17.5 per cent. Inventory on hand March 31st of 1,610,868,000 was near last year's record high but was only 1.5 per cent over the corresponding figure of a year previous.

These statistics would seem to indicate that while stocks are large they are not excessive. The prospects are that domestic demand will make new high records this Summer, considering the steady growth in the number of automobiles and trucks in use and the figures on gasoline consumption this year to date and barring cold and rainy weather. By next Fall stocks of gasoline should be cut in half and there is a likelihood of higher prices thereafter.

Lubricating and Fuel Oils

In the case of lubricating oils the production has steadily increased over the last few years, and a large percentage (32.9) goes into export, being 379,948,000 out of 1,154,500,000 gallons. The phenomenal growth of the automobile industry has multiplied the demand for lubricating oils in the same proportion as gasoline. Prices are relatively steady.

In recent weeks fuel oil has been the weakest petroleum product on the list. There is a close relation between heavy crudes and fuel oil, and the increased output from the Smackover field has lowered fuel oil quotations from \$1.80 a barrel to \$1.70. The demand for fuel grades continues to grow, however, as more steamships are equipped as oil burners, manufacturing plants employ it for power, and there is a growing tendency to use it for heating homes. The prevailing low prices of coal have naturally checked this tendency to some extent. Of the 13,460,000,000 gallons of fuel oil produced last year 1,437,552,000 gallons was exported, and there was loaded into ships as bunker oil an additional 43,328,000 barrels.

Kerosene is used principally for illuminating purposes and its use in this country has been steadily decreasing during the last few years due to the development of gas and electricity. Of the 2,521,000,000 gallons produced last year 36.2 per cent went into export trade, the principal customers being China, Great Britain, France, Netherlands, India, Germany and Belgium in the order named. The price remains around 14 cents per gallon, with the market dull and weak.

A decade or more ago, kerosene was the mainstay of the refining industry. Gasoline at that time was a by-product and a drug on the market. Now the development of the internal combustion engine, especially for automobiles, has reversed the situation. In 1914 kerosene made up 24.1 per cent of the oil yield of refineries; last year it was but 9.3. In 1914 gasoline made up 18.2 per cent of the yield; last year it was 33.1. The tremendous demand for gasoline in recent years has caused refiners to include in gasoline the "ends" along the distillate scale that were formerly put into naphthas and kerosene, to subject the residual fuel oil to a further "cracking" already mentioned, and to blend in "casinghead gasoline" made from natural gas. Years ago the states had inspectors to see that kerosene was not diluted with gasoline; now they have inspectors to see that the gasoline does not contain kerosene. There still persists a limited demand for kerosene for special uses, as in tail lights on trains, and there has been some requisition for power purposes in tractors, motor boats and stationary engines.

Federal Conservation Board

In our January letter we spoke of the creation by President Coolidge of a Federal Oil Conservation Board, consisting of the Secretaries of War, Navy, Interior and Commerce. Shortly after its organization the Board appointed a technical man from each department to form a sub-committee, and issued a statement of its purpose to ask the cooperation of leading oil men in making a broad study of the industry. Some of the present problems are to prevent the recurring periods of overproduction, to reduce the excessive stocks carried in storage, to better the leasing and royalty practices, to eliminate unnecessary waste in the drilling, production and transportation of crude, to increase the efficiency of refinery operations, and to improve the methods of consuming the finished products. The future problems include the conservation of proven reserves, the exploration but not exploitation of new territory, the importation of a larger part of our crude supply from foreign countries, utilization of coal in preference to oil wherever practicable, development of substitutes from oil shale, coal distillates and organic

distillates, the adequacy of our Naval fuel supply, and the handling of oil lands owned by the government.

The American Petroleum Institute, whose membership represents a major percentage of the producing, refining, transportation and distributing branches of the industry, adopted a resolution expressing its approval of the principle of cooperation between government and industry and its desire to cooperate with the Conservation Board, and appointed a committee of its members to make an exhaustive collection and study of facts pertaining to these problems. The Board has sent to the heads of over a score of the country's great oil companies a detailed questionnaire covering problems of production, and another to a group of technical officers covering the question of future supply. The answers to these questionnaires are now being published and furnish much very interesting information. The helpful and cooperative spirit of both the government and the operators, combined with the broad scope of the study, may make this work of epochal importance to the American petroleum industry.

At various times in the past estimates have been made of the oil reserves in this country based on the record of producing wells and extensive field investigations in new territory, and indicating that our resources would be exhausted in ten, fifteen or at the most, twenty years. Great care should be used in the interpretation of these statistics and a simple division of unused supply by current production does not give an exact figure as to probable life, due to the fact that with increasing dearth and rising prices, oil not now economically recoverable will be brought to the surface, the supply of oil will be enlarged by more efficient methods in mining, and a relatively smaller volume of oil will be made to perform a given service through more efficient refining and application. Moreover, these calculations include only the known reserves, while as a matter of fact new fields have been discovered year by year which tend to offset the depletion of the proven territory, so that up to the present time the probable date of petroleum scarcity has been continually advanced.

World Oil Resources

There is no question, however, that in the future the world supply of crude must be obtained in larger part from countries other than the United States. Production in the Appalachian field, our oldest source, has been slowly declining for several years, and the same is true in the Lima-Indiana and the Illinois territory. The Mid-continent flow is probably at its best, while the Gulf output of heavy crude has shown a decided increase recently. In the

Rocky Mountain territory oil was first discovered in Colorado in 1876 but volume was insignificant until the bringing in of the Salt Creek pool in Wyoming, which is now the leading State in the group, and many experts believe that this field is still in its youth and susceptible of great development. The declining tendency of production invariably displayed by a single well or group of wells, if unsupported by the bringing in of new wells, is illustrated by the record of the California field, our largest producer. In 1923 the flow from its three great pools in the Los Angeles basin, namely, Long Beach, Huntington Beach and Santa Fe Springs, disturbed the oil markets of the world, but since then has been declining and present production is around 300,000 barrels daily from Southern California, comparing with a peak of 663,000 reached in August, 1923.

A few years ago the U. S. Geological Survey prepared an estimate of the petroleum resources of the world and while it does not claim exactitude it furnishes an index of where we must look for our petroleum supply. Since the table was compiled the reserve in the United States has been drawn upon to the extent of approximately 2,000,000,000 barrels, and a number of new pools have been discovered that were not included in this estimate.

The important question is not so much where the reserves are located as who controls them. Although the American oil industry has up to the present time been supreme in the world marketing of refined products it has been somewhat behind its foreign competitors in the acquisition of new lands abroad. One reason for this is that certain foreign governments have held a particularly sympathetic attitude toward the oil industry in their respective countries and have aided and protected it in acquiring concessions, leases and other rights. Another reason is that American capital was not inclined to venture into foreign fields to any large extent until the last ten years, with the result that British, Dutch and other European investors have acquired much of the desirable territory. The foreign fields being developed at the present time and showing the greatest promise include Russia, Persia, Roumania and Venezuela.

ESTIMATE OF WORLD'S PETROLEUM RESOURCES

(Barrels of 42 gallons — 000,000 omitted)

		%
United States and Alaska	9,150	20.2
Southeastern Russia, Southwestern		
Siberia and the Caucasus.....	5,830	13.0
Persia and Mesopotamia	5,820	12.9
Northern South America, including Peru	5,730	12.7
Mexico	4,525	10.0
Southern South America, including		
Bolivia	3,550	7.9
East Indies	3,015	6.7
China	1,375	3.0
Japan and Formosa	1,235	2.7

(Barrels of 42 gallons — 000,000 omitted)

		%
Roumania, Galicia & Western Europe...	1,135	2.5
Canada	995	2.2
India	995	2.2
Algeria & Egypt	925	2.0
Northern Russia and Saghalien	925	2.0
Total	45,205	100.0

Characteristics of the Oil Industry

In any analysis of the oil trade attention should be given to several peculiar characteristics. The foremost is that the volume of crude oil production is practically independent of the general business cycle. The manufacturer of pig iron, for example, can regulate his output to correspond with the demand; when prices are low his furnaces are banked and upon rising prices they are blown in. Not so with the oil producer, who must dispose of the oil as fast as it flows from the wells. Moreover, when someone strikes oil in a certain field, the owners of all the tracts of land in the same locality must immediately drill to protect their own interests, otherwise their neighbors will drain off all the oil deposits underlying their lands. It is a race to exhaust the pools before someone else does. Where the ownership is divided up into many small parcels, as in California, where wells were drilled on single town lots, the situation is at its worst. Although low prices tend to somewhat diminish the amount of new drilling and to temporarily cause the abandonment of wells having insignificant flow or requiring to be pumped, and high prices stimulate activity, yet the race to secure the oil while available is the dominating influence.

Another characteristic is the chance factor in bringing in new pools. The prospecting for new lands, termed "wild-catting" goes on continually by individuals who are not so much concerned with production as with the discovery of new reserves. When they make a lucky "strike", as the Los Angeles basin in 1923 or the Smackover "deep sand" field this Spring, the industry may be in a position of actual overproduction, nevertheless there is a rush of drillers to the new territory and the situation is thrown more out of balance.

Oil is usually sold to the pipe line companies as fast as produced, since the drilling companies seldom have facilities for storing any sizable quantity. These organizations are the

railroads of the oil industry, own approximately 50,000 miles of lines, equal to one-fifth that of the total railroad mileage of the United States, and carry a tonnage equal to one-tenth of the total railroad traffic. They have concentration centers called "tank farms" where the oil is stored in tanks holding 50,000 barrels or more. Petroleum was at first very costly because of the expense of drilling and pumping but especially because it was expensive to transport the crude oil for many miles in tank wagons or railroad tank cars to the refineries and again for long distances to the cities where it was marketed. Nowadays oil is pumped from the wells directly to the refineries thousands of miles away, and the great development of these systems with their low cost of transportation is largely responsible for the relative cheapness of petroleum and its products today. The refiners also are accustomed to store large quantities of oil, both crude to insure an adequate supply, and refined products to meet the extreme seasonal fluctuations characteristic of oil consumption.

Petroleum Stocks

This explains the situation over the last four years. At the beginning of 1921 the stock of crude petroleum in the United States was 124,600,000 barrels or 2.8 months' supply at the average rate of consumption that year. Domestic production since has continued to increase, and although imports were curtailed the inventory of crude on hand at the end of 1921 rose to 185,600,000 barrels, representing 4.2 months' supply, in 1922 to 264,600,000 barrels or 5.4 months, 1923 to 325,600,000 barrels or 5.6 months, and 1924 to 353,400,000 barrels or 5.6 months, notwithstanding the fact that consumption grew from a monthly average of 43,800,000 in 1921 to 62,600,000 in 1924, an increase of 43 per cent. Since the high point of 363,700,000 barrels on September 30th last inventories have been worked down to 323,300,000 on March 31st last, due to heavy consumption, and will be rapidly drawn down to normal provided the threatening Smackover production does not again turn the tide. Prices of all grades of crude have been advancing this Spring to around 50 per cent above the low levels reached last December. The gasoline situation is regarded as stronger than at any time since 1920.

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